CHAPTER

2

Dialer and Database Architecture

In this chapter

❏   Module 2.1: Introduction to Interaction Dialer

❏   Module 2.2: Introduction to the Interaction Dialer Database

❏   Module 2.3: Dialer Database Schema
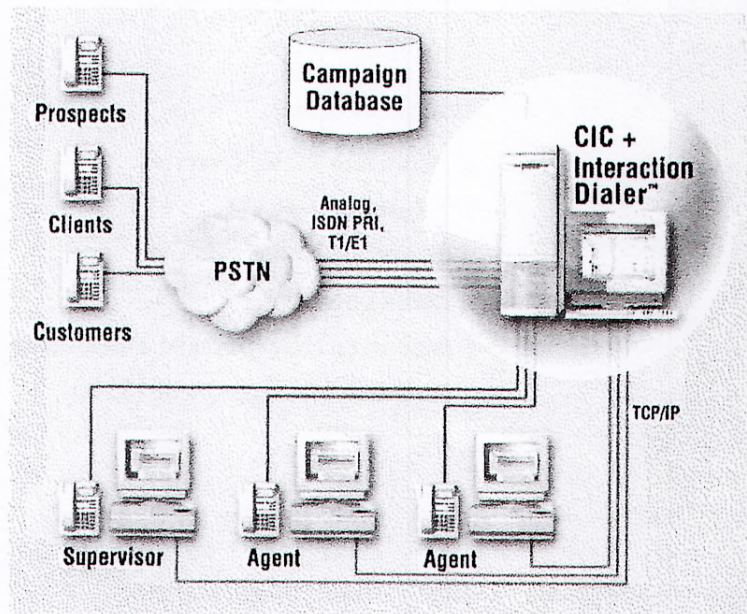
Chapter Objectives

At the end of this chapter, you will be able to...

➤   Describe the functionality of Interaction Dialer

➤   Define the modes of dialing

➤   Discuss the relationship between Interaction Dialer and CIC

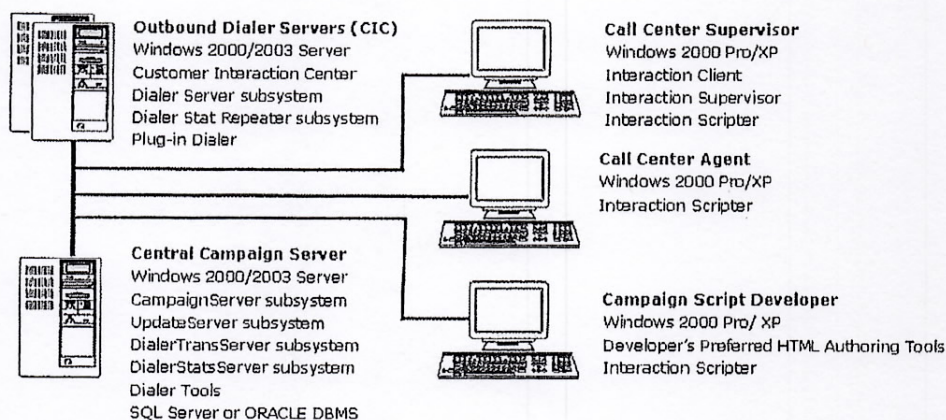EXHIBIT L

**Interaction Dialer
Overview**

Interaction Dialer™ is a set of client/server extensions that add predictive dialing and campaign management capabilities to the Customer Interaction Center™ platform.

Interaction Dialer works with the Customer Interaction Center® (CIC) software to provide complete outbound control through combined campaign/interaction management.

For outbound as well as inbound and blended interactions, CIC supplies the PBX, IVR, ACD, Web gateway and more. Interaction Dialer, on the CIC server, provides outbound and inbound/outbound contact centers and teleservices providers with a fully integrated solution to create outbound campaigns of every kind—without having to add expensive predictive dialer hardware. This single-server, "single-point" campaign and system administration provided with CIC and Interaction Dialer simply makes outbound efforts more manageable.

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Client/Server Architecture

Outbound Dialer Servers (CIC)	Call Center Supervisor
Windows 2000/2003 Server	Windows 2000 Pro/XP
Customer Interaction Center	Interaction Client
Dialer Server subsystem	Interaction Supervisor
Dialer Stat Repeater subsystem	Interaction Scripter
Plug-in Dialer	

Call Center Agent
Windows 2000 Pro/XP
Interaction Scripter

Central Campaign Server
Windows 2000/2003 Server
CampaignServer subsystem
UpdateServer subsystem
DialerTransServer subsystem
DialerStatsServer subsystem
Dialer Tools
SQL Server or ORACLE DBMS

Campaign Script Developer
Windows 2000 Pro/ XP
Developer's Preferred HTML Authoring Tools
Interaction Scripter

Client/Server Architecture — Since Interaction Dialer is a client/server system, its components run on different hardware devices. For example, the Central Campaign Server runs on a server apart from CIC, while the Interaction Scripter predictive client runs on desktop PCs used by call center agents. CIC interacts with these systems in a variety of ways:

- The Outbound Dialer Server uses its predictive algorithm to provide intelligent outbound predictions. It communicates with the Central Campaign Server via a Notifier connection. The Central Campaign Server sends campaign configurations, threshold alerts, and other notifications to the Outbound Dialer Server subsystem, which in turn communicates with Interaction Processor to control processing.
- At the desktop level, campaign scripts execute inside the Interaction Scripter predictive client application. Interaction Scripter interacts with CIC's Client Services subsystem to provide desktop screen pops and agent status updates.
- The Telephony Services subsystem controls trunk and station interface boards, linking Interaction Dialer and the rest of CIC to telephony hardware devices. Interaction Dialer uses Telephony Services to place outbound calls, and it uses the ACD subsystem to switch calls to ACD agents.

Since the CIC's system architecture is event-driven, hardware devices are isolated from command and control subsystems. This allows the CIC to support a wide range of telephony hardware with minimal system integration overhead.

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CIC Integration and Campaign Administration

Interaction Dialer's integration with CIC makes it possible to manage outbound campaigns efficiently. During the course of a campaign, calls are placed to contacts based upon information read from a Contact List. *Campaign* is a generic term that describes the process of contacting a list of people.

Interaction Administrator — When Interaction Dialer is installed, campaign management functionality is added to Interaction Administrator—the configuration program that manages an IC server's configuration. Interaction Administrator helps system administrators manage virtually every aspect of the Interaction Center (IC); from the telephony hardware and inbound/outbound phone lines on the server, to the appearance and security levels of each user's Interaction Client on the workstations.

Interaction Dialer adds the capability to manage and configure zones, stages, rules, schedules, campaigns, and workflows. This functionality is encapsulated in a dynamic link library named piDialerU.dll. This administrative interface is called "Plug-in Dialer", or "piDialer", since it is a plug-in extension that Interaction Administrator loads at startup time.

Configuration data is stored centrally on one Central Campaign Server for use by many Outbound Dialer Servers. The Administrator of each Outbound Dialer Server can update configuration settings used by all participating servers in the network.

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Interaction Dialer Features   Interaction Dialer is a predictive dialing add-on for the Customer Interaction Center. Interaction Dialer enhances the efficiency of outbound call centers by automating manual tasks.

Automated Dialing —

- Interaction Dialer retrieves telephone numbers from a call queue.

- Obtains an outbound line from a configurable list of lines, dials the number, and waits for the call to be answered.

- Interaction Dialer reliably detects ring/no-answer conditions, busy signals, FAX tones, and answering machines. Agents receive only telephone calls that have reached a targeted party.

Interaction Dialer does more than just automate the dialing process. It uses an advanced predictive algorithm to forecast when agents will become available.

Predictive Dialing — *Predictive dialing* refers to the process of placing outbound calls, based upon the prediction that an agent will be available at some time in the future once a connection with a person is achieved.

It is generally accepted that agents in a manual dialing center are connected to targeted parties for less than 25 minutes per hour.

It can take up to 30 seconds for an agent to manually place an outbound call. The agent must look up a number, dial, and wait for an answer. Once the number is dialed, the agent spends time listening to rings, phone company intercepts, busy signals and answering machines. Additional time is required to update records at the end of each call.

Using a predictive dialer, agents are connected to targeted parties for as much as 55 minutes per hour. Since each agent's time is more effectively used—to collect money, process orders, etc., the overall productivity and profitability of the call center is increased.

A predictive dialer automates this process by automatically selecting the person to call, dialing the number, and routing the call to an agent if a live human being answers. Productivity gains are achieved by screening out answering machines, busy signals, non-completed calls, and operator intercepts.

Predictive Algorithm — The patented predictive algorithm uses real-time statistics to estimate when each agent will finish the current call. The system queues and places multiple outbound calls while agents are busy, to ensure that a targeted party is

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answering at the moment that the agent becomes available. Some of the factors that the predictive algorithm analyzes are:

- The number of available telephone lines.
- The number of available agents.
- The probability of getting no answer, a busy signal, a disconnected number, operator intercept or an answering machine.
- The time between calls required for maximum operator efficiency.
- The average length of each conversation.
- The average length of time the agents need to enter the relevant data.

Automatic dialing and predictive calculations work together to improve the efficiency of outbound call centers. The rate of outbound calling is adjusted dynamically as factors change. Agent productivity, in terms of time spent talking to customers and prospects, can approach 100% utilization.

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Dialing Modes   **Predictive Dialing Mode** — In predictive dialing mode, outbound calls are placed based on the prediction that an agent will be available once a call is connected to a live person. The Outbound Dialer Server makes predictive calculations to determine when each agent will be available to process the next call. It is important to note that the predictions are based on statistics gathered for *each* agent, not on averages for all agents.

Preview Dialing Mode — Preview dialing mode presents the agents with information about the targeted party before the call is placed. When ready, the agent manually initiates the call by pressing a button in the client application. A display is populated on the agent's screen with the information about the call and the action necessary to place the call. The agent has the option to reschedule the call, or skip to the next data pop. This type of dialing is also known as 'screen dialing' or 'cursor' dialing. This is commonly used in situations in which the agent must read the customer's previous history or information before speaking with them, such as in a collection center environment.

Power Dialing Mode — Power dialing uses the predictive algorithm to calculate the number of calls it will take to reach a live party. However, in power dialing the algorithm does not attempt to anticipate when an agent will become available. Rather, in power dialing the server waits until an agent has become available and *then* proceeds to place the calls. Power dialing eliminates the need to declare stages for a campaign, as all calls are placed when an agent becomes available. Power dialing is not as efficient as predictive dialing, but offers a considerable advantage over manual dialing.

Agentless Mode — Interaction Dialer can conduct campaigns that do not require agent participation. Agentless campaigns send faxes or play prerecorded voice messages to targeted parties-without any involvement on the part of call center agents. IC call analysis plays an important role here, by determining who or what answered the call. Agentless campaigns fully support mixed media.

- Wave audio files are played when an answering machine or live person answers the outbound call. Interaction Dialer can optionally disconnect if an answering machine is detected. If handlers are customized, additional data about the call can be gathered.

- Fax files can be transmitted to Fax machines. No data is collected from the recipient unless handlers are customized as noted above.

- Outbound IVR is supported through integration with Interaction Attendant. Agentless campaigns can route connected parties to an Attendant profile to provide any needed post-call routing option.

Agentless calling mode replaces the Voice and Fax calling modes supported by releases of Interaction Dialer prior to version 2.3.x.

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CHAPTER 5

Contact Times-Time Zones and Schedules

In this chapter

☐ Module 5.1: Time Zone Blocking

☐ Module 5.2: Automatic Time Zone Mapping

☐ Module 5.3: Schedules

Chapter Objectives

At the end of this chapter, you will be able to...

➤ Define Zone Sets and Zones

➤ Create and configure Zone Sets and Zones

➤ Calculate allowable calling times for Zones

➤ Create and configure Time Zone Map Data Sets

➤ Activate automatic time zone mapping

➤ Define Schedules

➤ Create and configure Schedules

Time Zone Blocking

To create Zone Sets, you need to understand how the Central Campaign server decides whether or not to select a record for outbound calling, based upon time of day. This is called *Time Zone Blocking*.

Time Zone Blocking prevents calls from being placed to particular time zones, during particular times of day. For example, most contact centers do not wish to disturb customers who are sleeping. Time zone blocking also prevents auto-scheduled calls from being placed at inappropriate times. Most importantly, this configuration is essential in keeping your system compliant with legislation regarding approved call times. We will cover compliance in more detail in a later chapter.

Here's how Time Zone Blocking works: Each record in the Contact List table contains a time zone field. This field contains a string of alphanumeric characters that uniquely identify the time zone of the targeted party. The zone field is an arbitrary user-defined string that can be up to 25 characters in length. Most call centers use time zone abbreviations (like those for North America listed below) to identify the time zone associated with each telephone number in a Contact List.

Zone	Description	Offset from UTC	Observe Daylight Savings Time
NST	Newfoundland Time	-3.5 hours	No
NDT	Newfoundland Time	-3.5 hours	Yes
AST	Atlantic Time	-4 hours	No
ADT	Atlantic Time	-4 hours	Yes
EST	Eastern Time	-5 hours	No
EDT	Eastern Time	-5 hours	Yes
CST	Central Time	-6 hours	No
CDT	Central Time	-6 hours	Yes
MST	Mountain Time	-7 hours	No
MDT	Mountain Time	-7 hours	Yes
PST	Pacific Time	-8 hours	No
PDT	Pacific Time	-8 hours	Yes
AKST	Alaska Time	-9 hours	No
AKDT	Alaska Time	-9 hours	Yes

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CHAPTER **6**

Campaign Configuration - Campaigns & Workflows

▌In this chapter

- ☐ Module 6.1: Campaigns
- ☐ Module 6.2: Workflows
- ☐ Module 6.3: Configuration Wizard

Chapter Objectives

At the end of this chapter, you will be able to...

- ➢ Define Campaign
- ➢ Create and configure a Campaign
- ➢ Define Workflow
- ➢ Create and configure a Workflow
- ➢ Explain the relationship between a Campaign and a Workflow
- ➢ Create a Workflow and Campaign Using the Configuration Wizard

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What are Workflows?   Workflows provide the capability to automate how campaigns run. Workflows address the needs of customers who manage multiple campaigns and multiple clients.

These call centers typically start and stop campaigns based upon a variety of criteria. For example, a call center might run a campaign until a quota of successful contacts is made, a sales threshold is reached, until a pool of customers is polled, or until the campaign has run for a specific length of time. Often it is desirable to transition the same pool of agents from campaign to campaign.
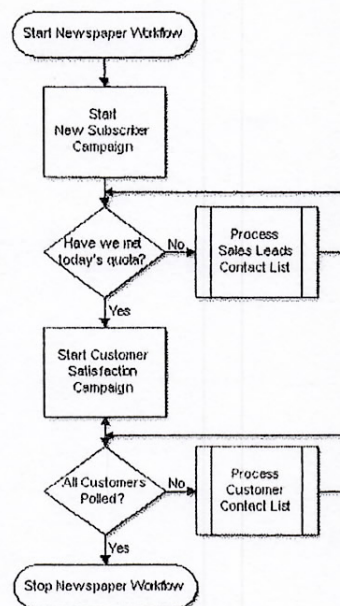
To automate this process, workflows can be defined to link campaigns together, using Rules to automatically transition from one campaign to another. Each workflow is an encapsulation of campaigns and runtime properties that define how the associated campaigns will run. Each workflow is assigned properties that are applied to all campaigns in the workflow. These properties include a list of participating servers, campaigns, line group, ACD Workgroup (participating agents), and the pace of outbound dialing activities.

Each workflow is governed by Rules that control the transition from one campaign to the next. Actions can be performed on campaigns when a specific statistical condition exists (total hours, total calls, quota reached, etc.). The actions that can be performed include transitioning to a new campaign, setting a campaign attribute, or sending a notification to Outbound Dialer servers that are participating in the campaign.

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